AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1. (Original): A $12CaO \cdot 7Al_2O_3$ compound comprising: electrons substituted for free oxygen ions at a concentration of 1×10^{18} to less than $1.1\times10^{21}/cm^3$ out of free oxygen ions contained in cages at a substitution ratio of the electrons to the free oxygen ions of 2 to 1, the concentration of the electrons being 2×10^{18} to less than $2.2\times10^{21}/cm^3$ in the cages, wherein the electrical conductivity at room temperature is in the range of 10^{-4} S/cm to less than 10^3 S/cm.

2. (Original): A $12SrO \cdot 7Al_2O_3$ compound comprising: electrons substituted for free oxygen ions at a concentration of 1×10^{18} to less than $1.1\times10^{21}/cm^3$ out of free oxygen ions contained in cages at a substitution ratio of the electrons to the free oxygen ions of 2 to 1, the concentration of the electrons being 2×10^{18} to less than $2.2\times10^{21}/cm^3$ in the cages, wherein the electrical conductivity at room temperature is in the range of 10^{-4} S/cm to less than 10^3 S/cm.

3. (Original): A mixed crystal compound containing $12CaO \cdot 7Al_2O_3$ and $12SrO \cdot 7Al_2O_3$, comprising: electrons substituted for free oxygen ions at a concentration of 1×10^{18} to less than $1.1\times10^{21}/cm^3$ out of free oxygen ions contained in cages at a substitution ratio of the electrons to the free oxygen ions of 2 to 1, the concentration of the electrons being 2×10^{18} to less than $2.2\times10^{21}/cm^3$ in the cages, wherein the electrical conductivity at room temperature is in the range of 10^{-4} S/cm to less than 10^3 S/cm.

4. (Original): An electride $12CaO \cdot 7Al_2O_3$ compound comprising: electrons that are substituted for almost all the free oxygen ions contained in cages at a substitution ratio of the electrons (referred to as e^-) to the oxygen ions of 2 to 1, the electride $12CaO \cdot 7Al_2O_3$ compound being practically represented by $[Ca_{24}Al_{28}O_{64}]^{4+}(4e^-)$.

5. (Original): An electride $12SrO \cdot 7Al_2O_3$ compound comprising: electrons that are substituted for almost all the free oxygen ions contained in cages at a substitution ratio of the electrons to the oxygen ions of 2 to 1, the electride $12SrO \cdot 7Al_2O_3$ compound being practically represented by $[Sr_{24}Al_{28}O_{64}]^{4+}(4e^-)$.

6. (Original): A mixed crystal electride compound containing a $12CaO \cdot 7Al_2O_3$ compound and a $12SrO \cdot 7Al_2O_3$ compound, comprising: electrons that are substituted for almost all the free oxygen ions contained in cages at a substitution ratio of the electrons to the oxygen ions of 2 to 1, the mixed crystal electride compound being practically represented by $[(Ca_{1-x}Sr_x)_{24}Al_{28}O_{64}]^{4+}(4e^-)$.

7. (Original): A method for manufacturing the compound according to one of Claims 1 to 6, comprising the step of: holding a single crystal $12CaO \cdot 7Al_2O_3$ compound or a hydrostatic pressure press molded material of a fine powder thereof, a single crystal $12SrO \cdot 7Al_2O_3$ compound or a hydrostatic pressure press molded material of a fine powder thereof, or a single crystal of a mixed crystal compound containing a $12CaO \cdot 7Al_2O_3$ compound and a $12SrO \cdot 7Al_2O_3$

compound or a hydrostatic pressure press molded material of a fine powder thereof at 600 to 800°C for 4 to less than 240 hours in an alkaline metal vapor or an alkaline earth metal vapor, whereby electrons are substituted for the free oxygen ions.

8. (Original): The method for manufacturing the compound, according to Claim 7, wherein sodium or lithium is used as the alkaline metal, and magnesium or calcium is used as the alkaline earth metal.

9. (Original): A method for manufacturing the compound according to one of Claims 1 to 6, comprising: melting one fine powder of the $12CaO \cdot 7Al_2O_3$ compound, the $12SrO \cdot 7Al_2O_3$ compound, and the mixed crystal compound containing a $12CaO \cdot 7Al_2O_3$ compound and a $12SrO \cdot 7Al_2O_3$ compound, followed by cooling and solidification, whereby electrons are substituted for the free oxygen ions.

10. (Original): The method for manufacturing the compound, according to Claim 9, wherein a melt of one fine powder of the $12CaO \cdot 7Al_2O_3$ compound, the $12SrO \cdot 7Al_2O_3$, and the mixed crystal compound containing a $12CaO \cdot 7Al_2O_3$ compound and a $12SrO \cdot 7Al_2O_3$ compound is held at more than 1,550°C to less than 1,650°C for more than 1 minute to less than 2 hours in a reducing atmosphere, followed by slow cooling to room temperature.

11. (Original): The method for manufacturing the compound, according to Claim 10,

wherein the reducing atmosphere according to Claim 10 is an atmosphere in a carbon crucible capped by a lid.

12. (Original): A method for manufacturing the compound according to one of Claims 1 to 3, comprising the steps of: holding one thin film made of the $12CaO \cdot 7Al_2O_3$ compound, the $12SrO \cdot 7Al_2O_3$ compound, or the mixed crystal compound containing a $12CaO \cdot 7Al_2O_3$ compound and a $12SrO \cdot 7Al_2O_3$ compound at 500 to 1,400°C, and implanting rare gas ions (Ar, Kr, or Xe) into the thin film of the compound, whereby electrons are substituted for the free oxygen ions.

13 and 14. (Cancelled).

15. (Original): An electron emission material comprising: the compound according to one of Claims 1 to 6.

16. (Original): A reducing material comprising: the compound according to one of Claims 1 to 6.